

REMARKS

This amendment supplements the RCE filed November 25, 2003. This amendment is also in response to the final rejection dated August 25, 2003 and the Advisory Action mailed December 1, 2003. A separate request for drawing correction is enclosed, addressing the Examiner's objections set forth in the advisory action.

Applicant requests amendment to the specification as set forth above. The Examiner objected to the previous request to amend in the amendment mailed November 10, 2003, contending that it contained new matter. Therefore, Applicant is withdrawing the previous request to amend the specification and instead requesting amendment as set forth above. Applicant is amending the claims to better define the invention. The amendment to the specification includes portions to match terminology of the amended claims to the specification.

As amended, all of the claims require that the pressure intensifier 18 (Figure 4) extend past the ends of the base section 13 and legs 15 of the pre-form. This an important feature because under force, the intensifiers press the edges of the pre-form into contact with the procured structures. If the intensifiers were shorter than the lengths of the base and the legs, then edge portions of the base or legs would not be pressed by the intensifier against the pre-cured articles 12. This requirement is contained in each of the three independent claims. This amendment is supported by the drawings, which clearly show the pressure intensifiers extending past the edges of the pre-form.

The references do not show this feature. For the purposes of intensifiers, the examiner cited Sloman and Barnes. Referring to Figure 2 of Sloman, pressure intensifier 26 is located only in the corner region. The sides of pressure intensifier 26 do not extend past lay-up 10, as required by the claims. Furthermore, Sloman does not suggest using a flexible intensifier, as required in the claims. Page 6, next to the last paragraph, states that the pressure intensifier is formed in a similar manner to a caul plate using similar cure and post-cure temperatures. As described at the top of page 7, the intensifier and caul plate are fully cured, therefore would not be flexible. A fully cured resin is not flexible.

Barnes shows not appear to show triangular pressure intensifiers. The silicone rubber blocks 221 in Figure 25 are rectangular in the view shown. The triangular shapes in the other drawings are molds, not silicone rubber blocks. Regardless of the shape, Barnes teaches away

from extending blocks 221 past any portion of the composite walls. Column 8, lines 17-18 state that the vertical rib portions 61 are timed flush with the top of the silicone rubber block 221.

A second feature that is not shown in the references is the requirement of tapered end sections on the legs and the base that are tapered in thickness. This feature is in claims 15, 24 and 46, and their dependent claims. Applicant submits that the references do not show end sections of a woven perform that are tapered. The Examiner cited Mueller and Morris in regard to this feature. Mueller does not show a pre-form that is tapered, the pre-form being woven and located between two pre-cured parts. Rather, Mueller shows adhesive strips 27 with successively shorter lengths that are laid on top of each other to achieve a tapered contour. Strips 27 are not woven and not pre-forms located between two pre-cured parts.

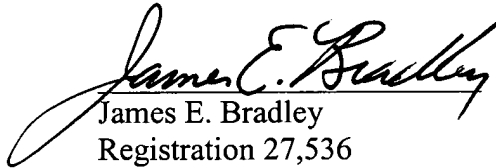
Morris shows tapered edges on channel members 5. Channel members 5 are not pre-forms located between two pre-cured composite structures. Channel members 5 are not woven members. In fact, there appears to be no mention of the composition of channel members 5.

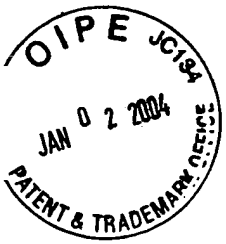
Another feature, which is contained in claims 15 and 24, requires that the pressure intensifier have straight sides located in a single plane. This is not new matter because the drawings clearly show that the sides of the pressure intensifier are straight and thus located in single planes. These claims require also tapered end sections on the ends of the base and leg, such as tapered sections 14 and 17 in Figure 4. These claims require that the straight portions extend past the ends of the legs. The straight, single plane portions are thus spaced from the tapered sections initially, as shown in Figure 4. The pressure intensifiers conform to the tapered sections only under pressure, when the vacuum bag is evacuated. The use of flexible, straight-sided pressure intensifiers is an important feature. As a result, the manufacturer need not fabricate precisely dimensioned pressure intensifiers that fit the contours of the pre-forms. The deformation under pressure causes the pressure intensifiers to conform to the contours of the pre-form and firmly press the pre-form against the procured structures. The pre-forms can thus be made at much reduced cost over prior rigid pre-forms contoured to precisely match the article against which they were being pressed.

Applicant respectfully submits that the claims are now in condition for allowance and favorable action is respectfully requested.

Respectfully submitted,

Dec 30, 2003
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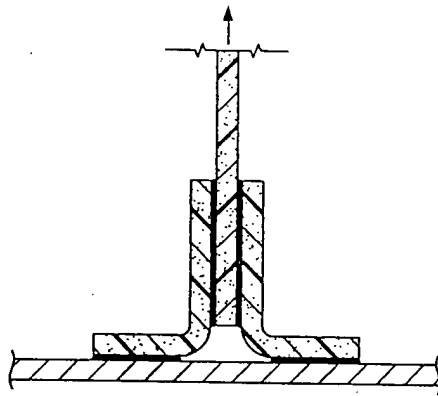


FIG. 1A
(PRIOR ART)

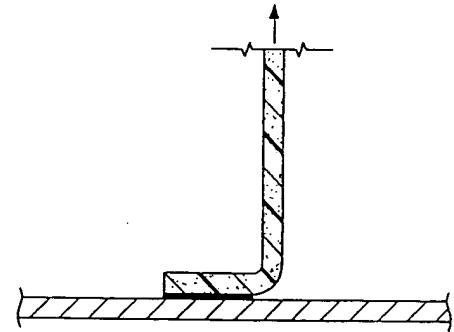


FIG. 1B
(PRIOR ART)

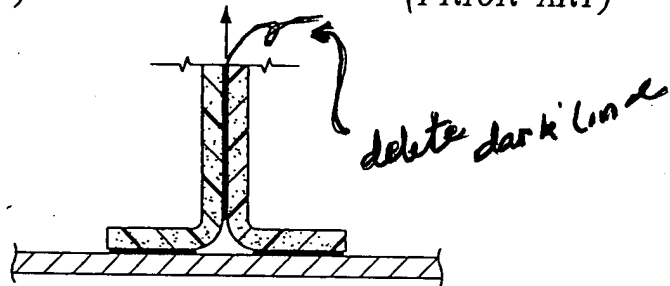


FIG. 1C
(PRIOR ART)

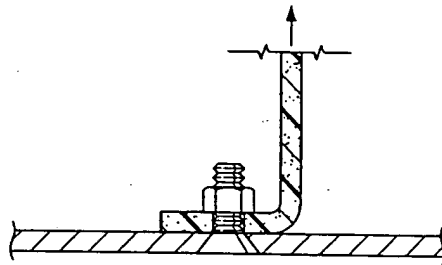


FIG. 1D
(PRIOR ART)

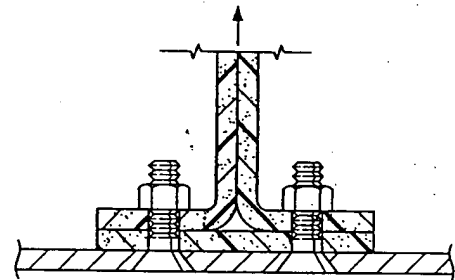


FIG. 1E
(PRIOR ART)

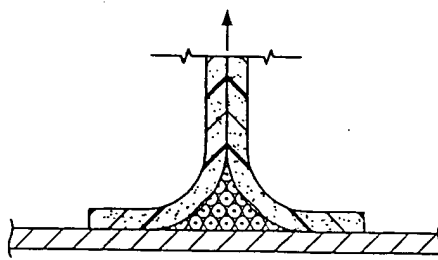


FIG. 2 (PRIOR ART)

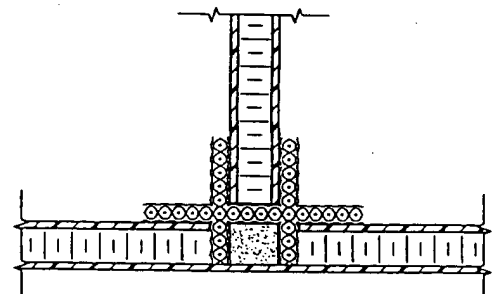
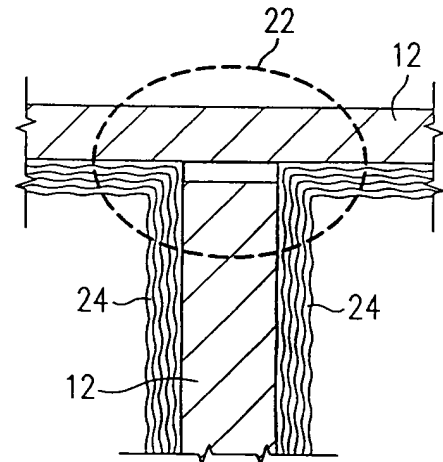
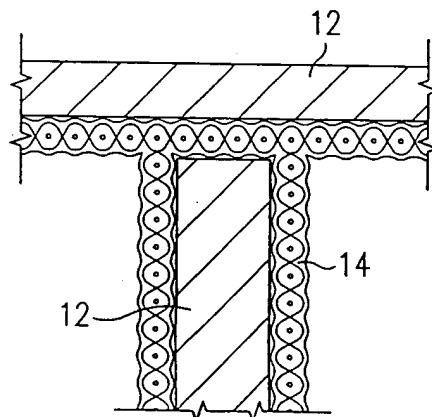
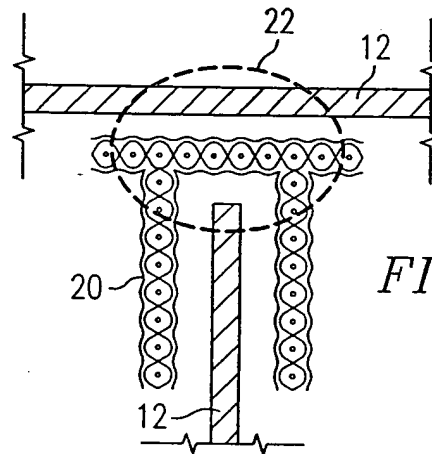
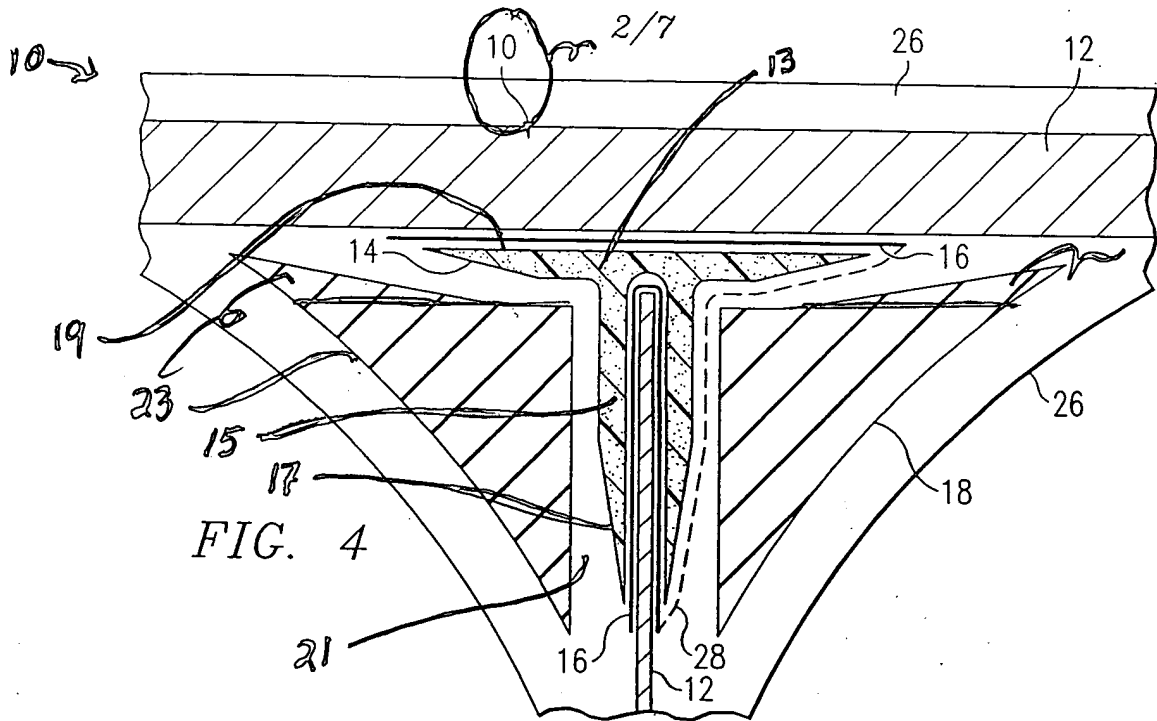


FIG. 3 (PRIOR ART)



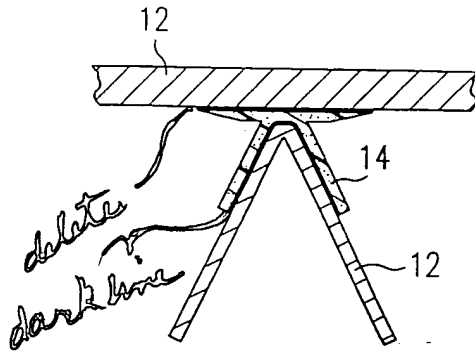
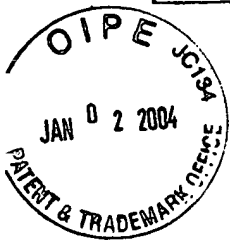


FIG. 7A

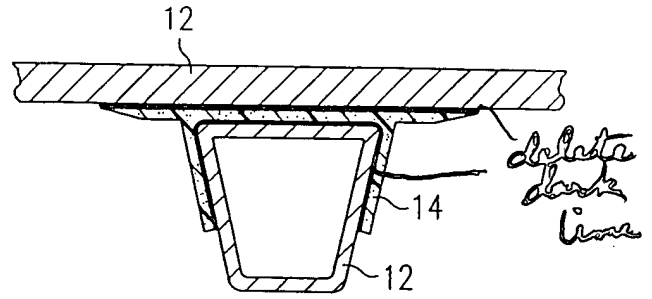


FIG. 7B

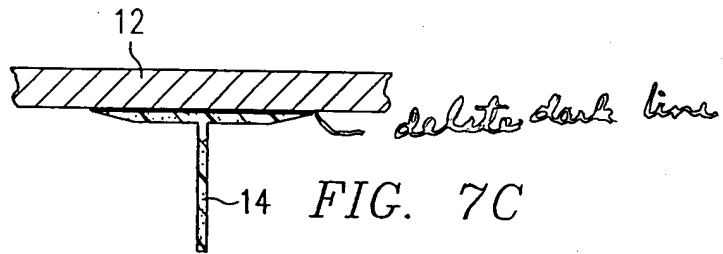


FIG. 7C

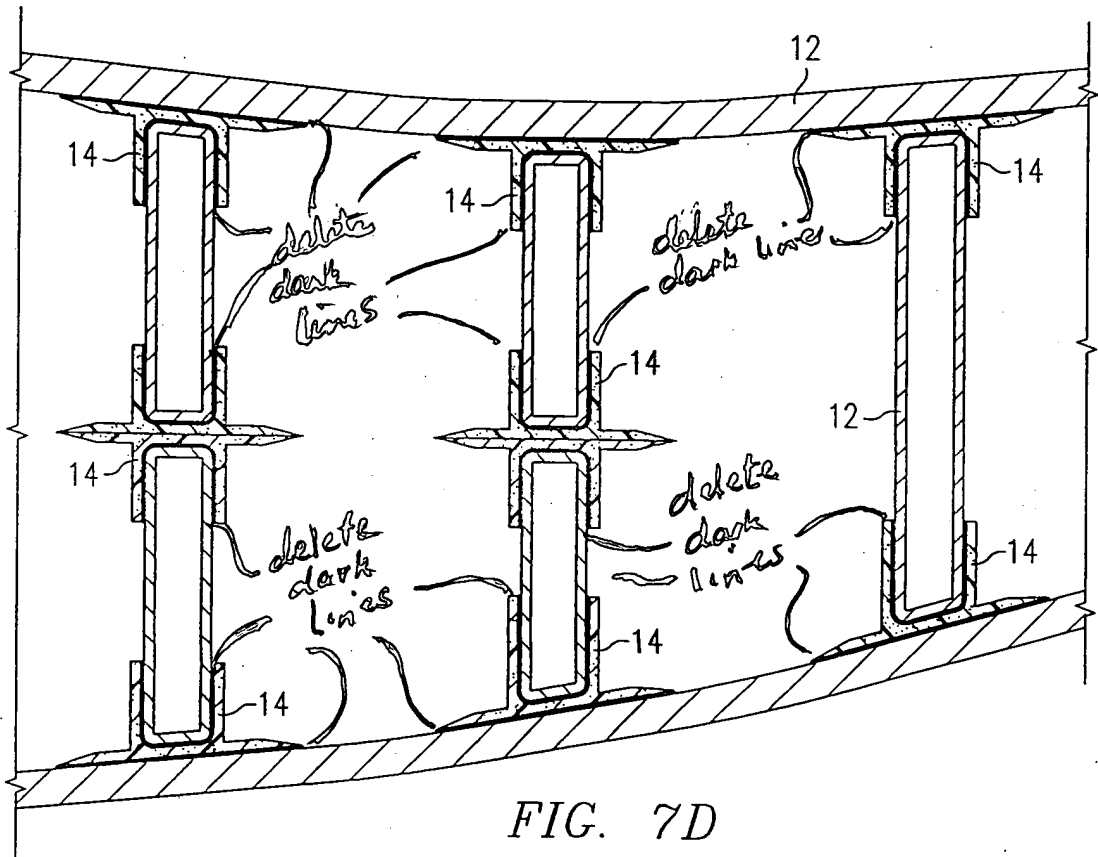


FIG. 7D

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
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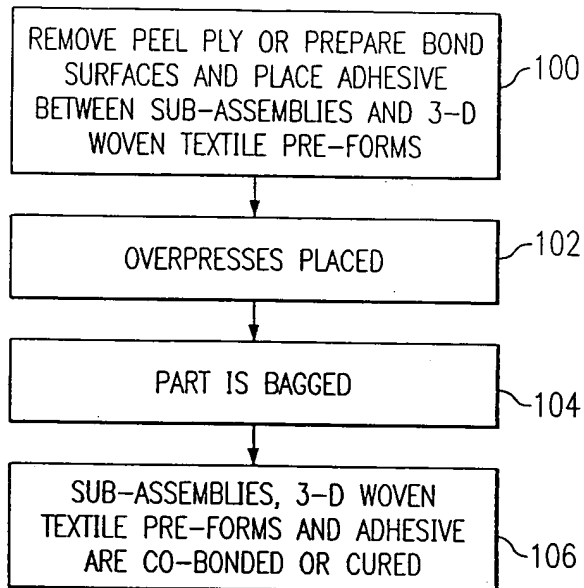


FIG. 8

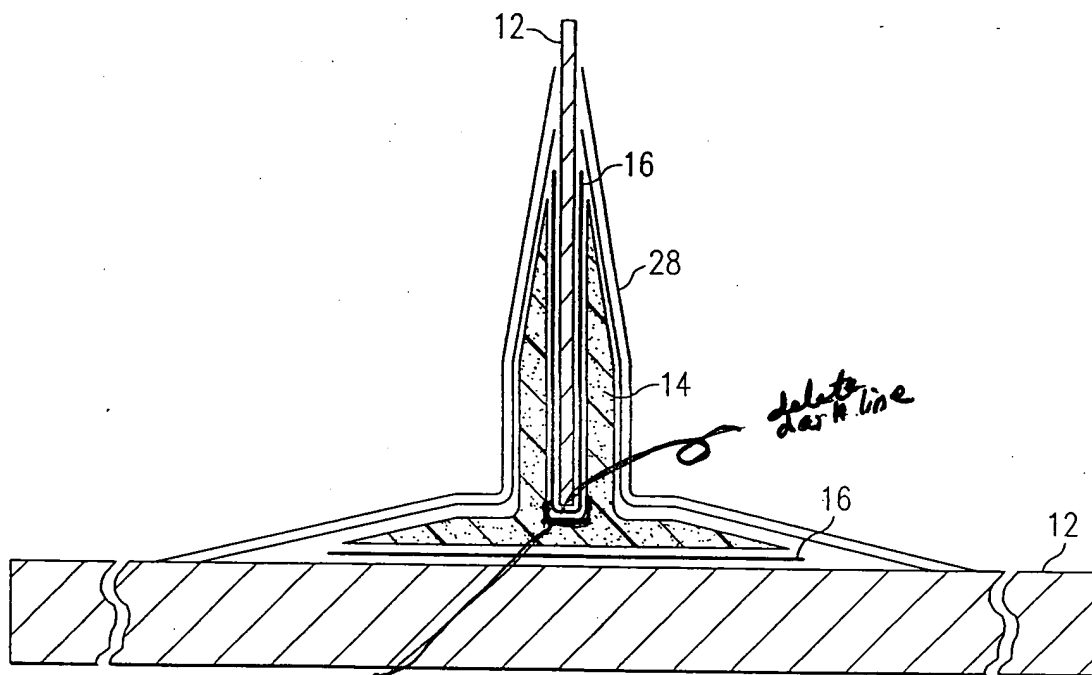


FIG. 9A

APPROVED	O.G. FIG.	
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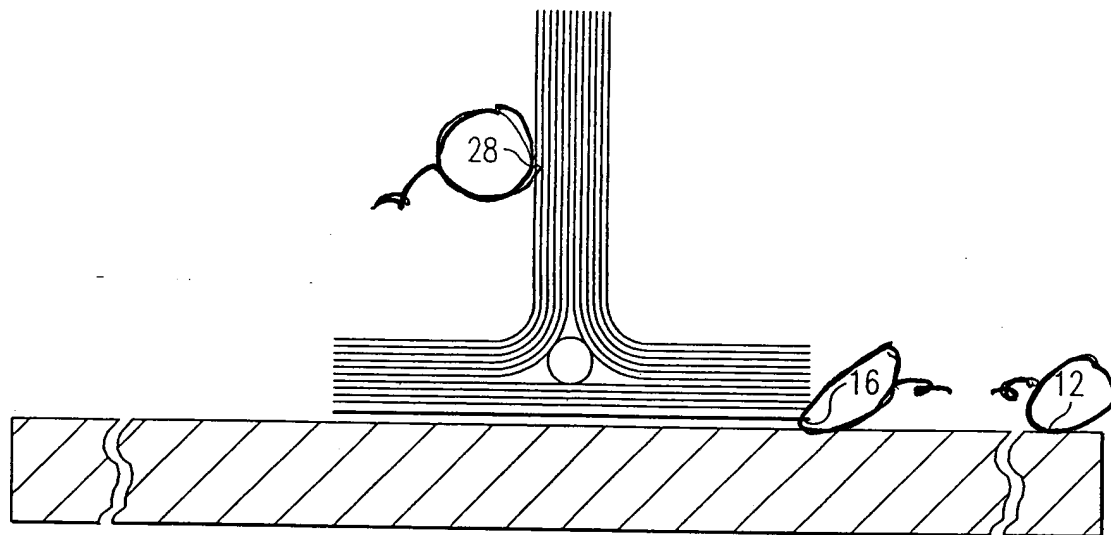


FIG. 9B (PRIOR ART)

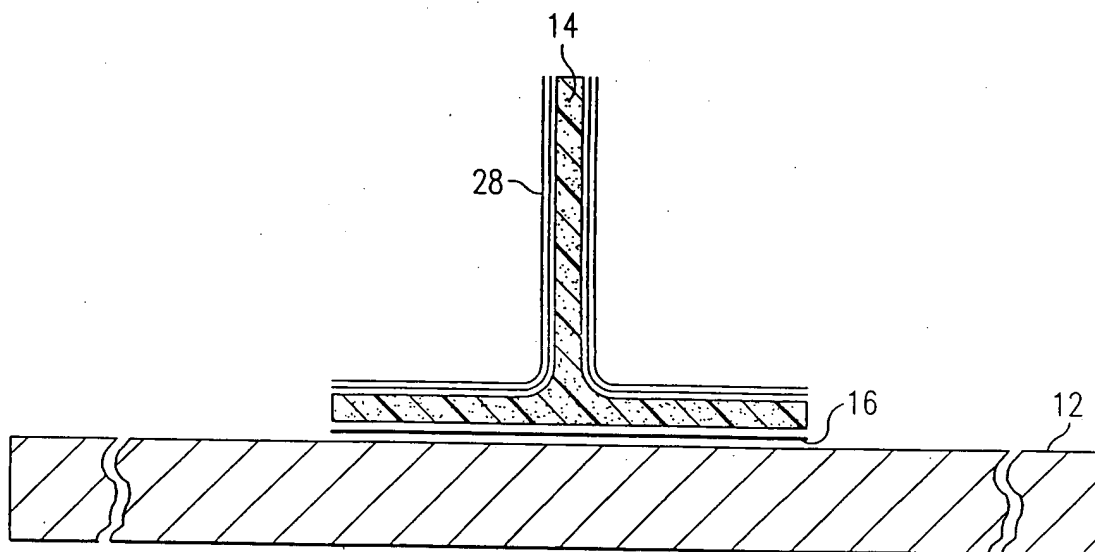
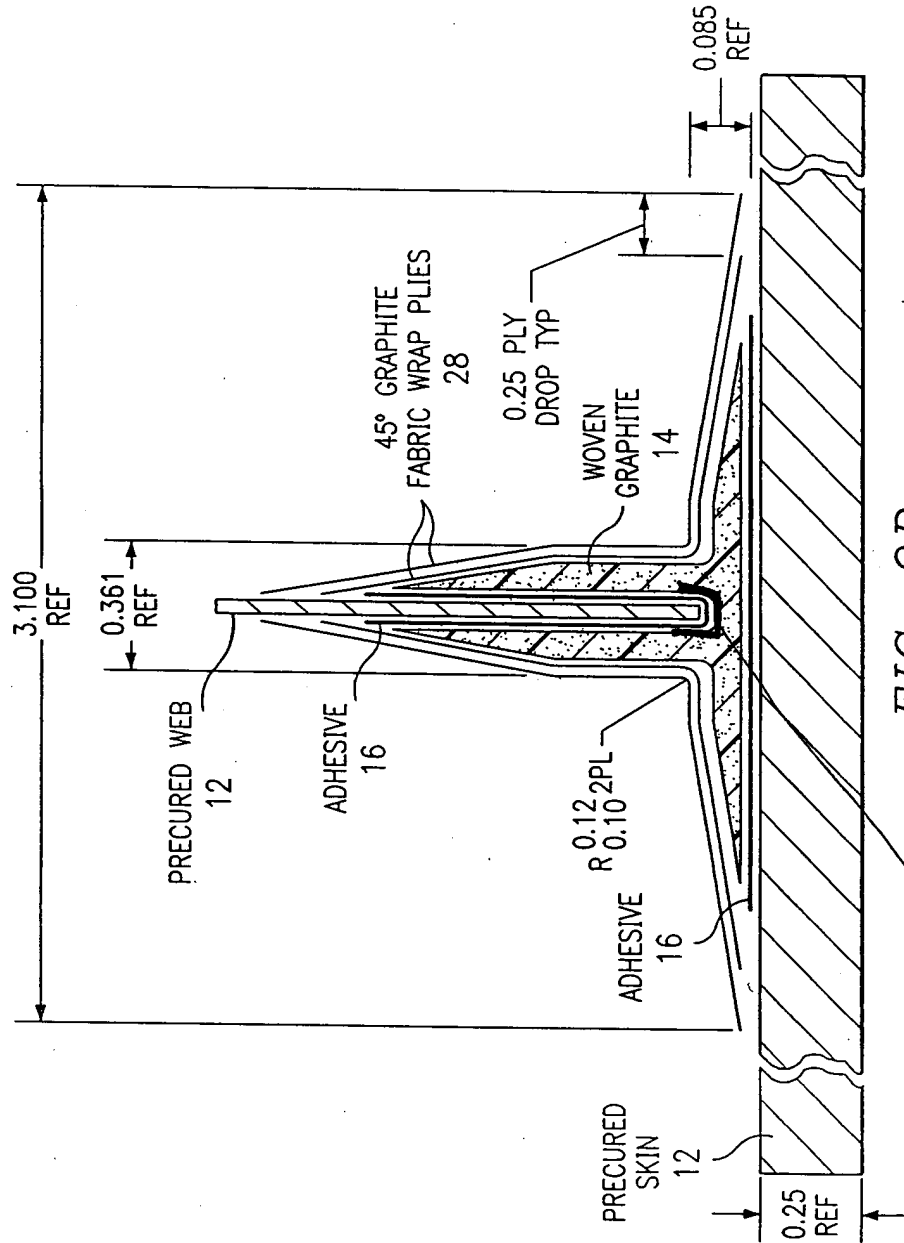


FIG. 9C



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APPROVED	O.G. FIG.	
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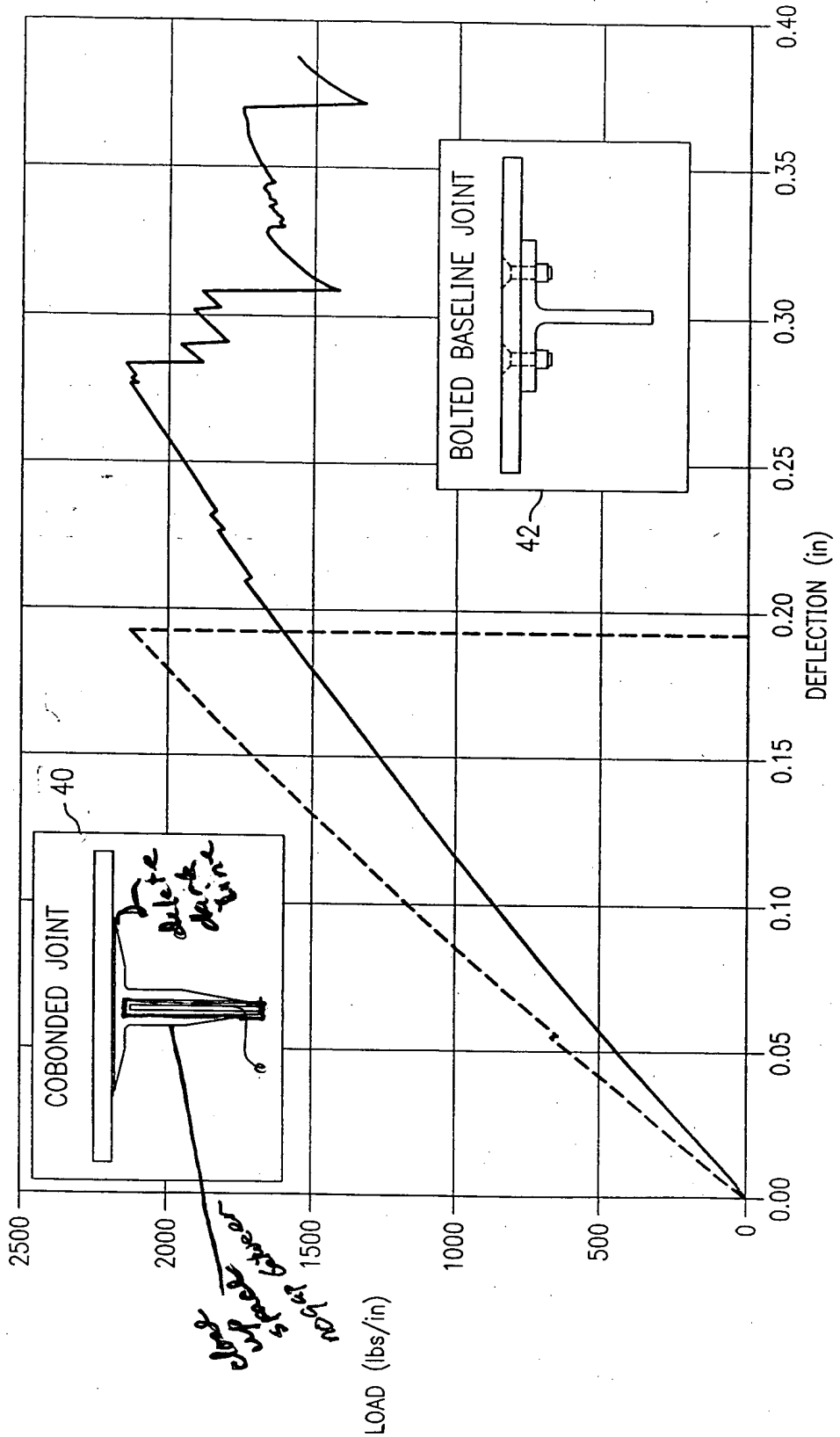


FIG. 10